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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,614	10/30/2000	William Silver	C00-057	7066

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EXAMINER

LE, BRIAN Q

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/699,614

Applicant(s)

SILVER, WILLIAM

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on October 14, 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **Response to Amendment and Arguments**

1. Applicant's amendment filed October 14, 2004, has been entered and made of record.
2. Applicant's arguments with regard to claims 11-20 have been fully considered, but are not considered persuasive because of the following reasons:

Regarding claims 11 and 15, the Applicant argues (page 4) that Michael does not teach the disclosure of rendering targets on an object characterized by a fan shape with at least one of a plurality of blades having a contour boundary representing a non-zero spiral or an non-zero skew so as to **not cause grid degeneracy and size self-similarity** (emphasis added). The Examiner respectfully disagrees. As disclosed in previous Office Action, Michael teaches the rendering targets on an object characterized by a fan shape with at least one of a plurality of blades having a contour boundary representing a non-zero spiral or an non-zero skew (please refer back to previous Non-Final Office Action especially to the "Response to Amendment and Arguments" and "Claim Rejection" Sections) so as not to cause grid degeneracy (Sobel Filter Processing to enhance edges of the image to prevent lost of information of pixel grid around edges) (column 6, lines 20-60) and size self-similarity (matching/render/calibrate targets without size factor/consideration) (column 4, lines 46-55).

Thus, the rejections of all of the claims are maintained.

### ***Drawings***

3. This application, filed under former 37 CFR 1.60, lacks formal drawings. The informal drawings filed in this application are acceptable for examination purpose. When the application is allowed, applicant will be required to submit new formal drawings on separate sheet, starting from page 1.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 11-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Michael U.S. Patent No. 6,137,893.

Regarding claim 11, Michael teaches a method of locating an object (Abstract, last 4 lines) comprising:

Rendering a target on the object (image generation) (FIG 4, element 106), the target characterized by a fan shape (FIG. 1B-1D);

The target having a plurality of blades (FIG. 1B-1D);

At least one of the plurality of blades having a boundary contour (boundary lines covering the blade) (FIG. 1B, elements 34 and 46) representing a non-zero skew (FIG. 1B-1D) so as not to cause grid degeneracy (Sobel Filter Processing to enhance edges of the image to prevent lost of information of pixel grid around edges) (column 6, lines 20-60) and size self-similarity (matching/render/calibrate targets without size factor/consideration) (column 4, lines 46-55); and searching for the target so as to provide a pose of the object (column 9, lines 64-67 and column 10, lines 1-15).

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Searching for the target so as to provide a pose (location/position/orientation) of the object (Abstract, last 2 lines).

Regarding claim 12, Michael teaches the method further comprising the skew of the at least one of the plurality of blades is different from a skew of at least one other blade in the plurality of blades (FIG. 1C).

Regarding claim 13, Michael teaches the method further comprising the skew of the at least one of the plurality of blades being different from a skew of all the other blades in the plurality of blades (FIG. 1C).

Regarding claim 14, Michael teaches the method wherein each of the plurality of blades having a skew different from the skew of all other blades in the plurality of blades (FIG. 1C).

Regarding claim 15, please refer to claim 11 for the explanation. In addition, Michael teaches a method wherein at least one of the plurality of blades having a non-zero spiral (FIG. 1C) (column 9, lines 64-67 and column 10, lines 1-15).

For claim 16, Michael also discloses the method comprising the spiral (pattern) of the at least one of the plurality of blades being different from a spiral of at least one other blade in the plurality of blades (FIG. 1C).

Regarding claim 17, Michael teaches the method further comprising the spiral of the at least one blade in the plurality of blades being different from the spiral of all other blades in the plurality of blades (FIG. 1C).

For claim 18, Michael further teaches the method wherein each of the plurality of blades having a spiral different from the spiral of all other blades in the plurality of blades (FIG. 1C).

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***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michael U.S. Patent No. 6,137,893 and further in view of McCarthy U.S. Patent No. 5,125,035.

Regarding claim 19, McCarthy teaches the method further comprising at least one of the plurality of blades including a hole (turbine engine blades have holes) (column 2, lines 8-41) (abstract; FIG. 5; Summary of the invention; column 3, lines 7-24). Modifying Michael's method of locating object according to McCarthy would be able to allow blade with hole so the image's centroid position can be determined and corrected (column 2, lines 35-42). This would improve processing and therefore, it would have been obvious to one of ordinary skill in the art to modify Michael according to McCarthy.

For claim 20, please refer back to claim 19 for the teaching.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

BL  
March 6, 2005



**SAMIR AHMED  
PRIMARY EXAMINER**